PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
JEFFREY J. RICHMOND
STOLOWITZ FORD COWGER LLP
621 SW MORRISON, SUITE 600
PORTLAND, OR 97205

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	22 SEP 2008
Applicant's or agent's file reference 5087-1084	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US 08/60696	17 April 2008 (17.04.2008)	17 April 2007 (17.04.2007)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H03K 19/177 (2008.04)
USPC - 326/39

Applicant CYPRESS SEMICONDUCTOR CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	16 September 2008 (16.09.2008)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 08/60696

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

   a. type of material

      ☐ a sequence listing

      ☐ table(s) related to the sequence listing

   b. format of material

      ☐ on paper

      ☐ in electronic form

   c. time of filing/furnishing

      ☐ contained in the international application as filed

      ☐ filed together with the international application in electronic form

      ☐ furnished subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 08/60696

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	NONE	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by US 6,121,791 A (Abbott).

As to claim 1, Abbott teaches an apparatus, comprising: configuration memory coupled to one or more structural arithmetic elements (col. 5, ln. 46-48), the configuration memory to store values that cause the structural arithmetic elements to perform various functions (col.5, ln. 6-9); and a system controller to dynamically load the configuration memory with values to prompt the structural arithmetic elements to perform according to the values stored by the configuration memory (col. 5, ln. 23-33).

As to claim 2, Abbott teaches an apparatus including a read address decoder associated with the configuration memory (col. 5, ln. 23-33), the read address decoder to receive input from the system controller or interconnect matrix inputs and determine one or more of the stored values to provide the structural arithmetic elements (col. 5, ln. 6-9, 23-33).

As to claim 3, Abbott teaches an apparatus including a write address decoder associated with the configuration memory, the write address decoder to identify a location in the configuration memory to dynamically store values from the system controller (col. 5, ln. 49-52).

As to claim 4, Abbott teaches an apparatus including a write controller associated with the configuration memory, the write controller to enable the system controller to dynamically load values to the location in the configuration memory identified by the write address decoder (col. 5, ln. 23-33).

As to claim 5, Abbott teaches an apparatus wherein the stored values include a function field that identifies a type of arithmetic operation to be performed by the structural arithmetic elements (col. 5, ln. 27-37).

As to claim 6, Abbott teaches an apparatus wherein the stored values include an input field to specify input data for use with the arithmetic operation corresponding to the function field (col. 5, ln. 63-66, col. 6, ln. 1-3), and include an output field to specify where the structural arithmetic elements are to provide an output associated with a performed arithmetic operation (col. 5, ln. 63-66, col. 6, ln. 1-3).

As to claim 7, Abbott teaches an apparatus wherein the stored values include an shift field to specify a shift data undergoing arithmetic operations (col.5, ln. 6-9, col. 11, ln. 37-40).

As to claim 8, Abbott teaches an apparatus wherein the stored values include an configuration field to identify one or more configurations of the structural arithmetic elements including at least on of a cyclical redundancy check configuration, a carry in configuration, a shift in configuration, or a compare configuration (col. 5, ln. 6-9, col. 17, ln. 47-49).

As to claim 9, Abbott teaches an apparatus wherein the configuration field identifies the one or more configurations of the structural arithmetic elements from multiple predefined static settings (col. 9, ln. 63-66).

As to claim 10, Abbott teaches a device comprising: at least one structural arithmetic operations based, at least in part, on configuration data (abstract, col.5, ln. 6-9); and configuration memory coupled to the structural arithmetic elements (col.5, ln. 6-9), the configuration memory to dynamically load configuration data that, when provided to the structural arithmetic elements, cause the structural arithmetic elements to perform the arithmetic operations (col.5, ln. 6-9).

As to claim 11, Abbott teaches a device including a system controller to dynamically load the configuration memory with the configuration data, and to prompt the structural arithmetic elements to perform the arithmetic operations according to the configuration data stored by the configuration memory (col. 5, ln. 23-33).

As to claim 12, Abbott teaches a device including a read address decoder associated with the configuration memory (col. 5, ln. 23-33), the read address decoder to receive input from the system controller or interconnect matrix inputs and determine one or more of the stored values to provide to the structural arithmetic elements (col. 5, ln. 6-9, 23-33).

As to claim 13, Abbott teaches a device including a write address decoder associated with the configuration memory, the write address decoder to identify a location in the configuration memory to dynamically store the configuration data from the system controller (col. 5, ln. 49-52).

--(Continued in Supplemental Box)--

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 08/60696

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Box V, 2. Citations and explanations:

As to claim 14, Abbott teaches a device including a write controller associated with the configuration memory, the write controller to enable the system controller to dynamically load the configuration data to the location in the configuration memory identified by the write address decoder (col. 5, ln. 23-33).

As to claim 15, Abbott teaches a device wherein the stored values include a function field that identifies a type of arithmetic operation to be performed by structural arithmetic elements (col. 5, ln. 27-37).

As to claim 16, Abbott teaches a device wherein the stored values include an input field to specify input data for use with the arithmetic operation corresponding to the function field (col. 5, ln. 63-66, col. 6, ln. 1-3), and include an output field to specify where the structural arithmetic elements are to provide an output associated with a performed arithmetic operation (col. 5, ln. 63-66, col. 6, ln. 1-3).

As to claim 17, Abbott teaches a method, comprising: storing one or more user programmable instructions into a configuration memory (col.5, ln. 6-9); providing at least one of the user programmable instructions to one or more structural logic elements (col.5, ln. 6-9), the structural elements to perform a corresponding user programmed logic function according to the received user programmable instructions (col.5, ln. 6-9); and dynamically reprogramming the configuration memory with at least another use programmable instruction that, when provided to the structural logic elements, cause the structural logic elements to perform corresponding user programmed logic functions, according to the received user programmable instructions (col. 6, ln. 60-65).

As to claim 18, Abbott teaches a method which includes identifying one or more of the stored user programmable instruction to provide to the structural logic elements according to an input received from a system controller (col. 5, ln. 23-33).

As to claim 19, Abbott teaches a method which includes identifying a location in the configuration memory to load the user programmable instruction from the system controller during the dynamic reprogramming (col. 5, ln. 23-33).

As to claim 20, Abbott teaches a method which includes writing a new set of user programmable instructions to the configuration memory while the stored user programmable instructions are currently being read and controlling the structural logic elements (col. 5, ln. 23-33, col. 6, ln. 60-65); and dynamically reconfiguring the structural elements to perform a new function according to the new set of user programmable instructions in response to a system event (col. 6, ln. 60-65).

Claims 1 - 20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.